

### **REMARKS**

In the April 12, 2007 Office Action, the Examiner rejects Claims 31-38 under 35 U.S.C. § 101 as being directed to non-statutory subject matter; and rejects Claims 1-48 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication 2006/0056496 to Smeed, et al. Applicant requests reconsideration of the rejections in view of the foregoing amendments and the following comments.

#### **Rejections Under 35 U.S.C. § 101 (Non-Statutory Subject Matter)**

The Examiner rejects Claims 31-38 as directed to non-statutory subject matter. In response, Applicant has amended independent Claim 31 herewith. Applicant respectfully submits that Claim 31, as amended, provides a practical application (*e.g.*, for filtering interference) and respectfully request the Examiner to withdraw the rejections to Claim 31 under 35 U.S.C. § 101.

Claims 32-38 depend from amended Claim 31. In view of the amendment to Claim 31, Applicant requests the Examiner to withdraw the rejections to Claims 32-38 over 35 U.S.C. § 101.

#### **Rejections Under 35 U.S.C. § 103(a) over U.S. Patent Application Publication 2006/0056496 to Smeed, et al.**

The Examiner rejects Claims 1-48 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication 2006/0056496 to Smeed, et al. ("Smeed"). Applicant has amended Claims 1, 17, 31, and 39 to clarify the claimed invention. Applicant believes that, as amended, Claims 1, 17, 31, and 39 are not obvious in view of Smeed, and Applicant requests withdrawal of the rejections to Claims 1, 17, 31, and 39.

Applicant has amended Claim 1 to clarify that the selection itself of the specific coefficient algorithms is adaptive. This amendment is supported by, for example, the algorithm described in connection with paragraph [0054]. Applicant respectfully submits that amended Claim 1 is not obvious in view of Smeed.

Applicant has amended Claim 17 to clarify that the adaptation engine comprises "a controller that adaptively selects a smaller subset than all of said plurality of coefficients to adapt, and adaptively selects a coefficient adaptation algorithm from said plurality of adaptation

algorithms to use to adapt said adaptively selected smaller subset of filter coefficients.” This amendment is supported by, for example, paragraph [0044]. Applicant respectfully submits that amended Claim 17 is not obvious in view of Smee.

Applicant has amended Claim 31 to clarify that the method includes “adaptively selecting a first subset of the filter coefficients of the digital filter based at least in part on a current load of a processor adapting the first subset of filter coefficients” and “wherein the first subset of coefficients is more dominant than the second subset of filter coefficients, and the first adaptation algorithm is more computation-intensive than the second adaptation algorithm.” This amendment is supported by, for example, paragraphs [0029], [0049], and original dependent Claim 32, which has now been canceled. Applicant respectfully submits that amended Claim 31 is not obvious in view of Smee.

Applicant has amended Claim 39 to clarify that the controller for the adaptation engine “controls the coefficient adaptation circuit at least in part by adaptively selecting fewer than all coefficients of the digital filter to adapt.” Applicant respectfully submits that amended Claim 39 is not obvious in view of Smee. Applicant respectfully submits that selecting fewer than all coefficients is proceeding against conventional wisdom, as filter adaptation would typically be better if all coefficients were adapted. However, there can be reasons such as processor load or available power that can make it desirable in certain situations to perform partial adaptation, and to adaptively select which coefficients are to be adapted.

In view of the foregoing amendments, Applicant request the Examiner to withdraw the rejections to Claims 1, 17, 31, and 39 and to allow the same.

**Dependent Claims 2-16, 18-30, 33-38, and 40-48**

Dependent Claims 2-16, 18-30, 33-38, and 40-48 depend from and further define Claims 1, 17, 31, and 39, respectively. The dependent claims recite numerous additional distinctions over the cited references.

For example, dependent Claim 11 describes “wherein the controller adaptively selects among the plurality of coefficient adaptation algorithms based at least in part by monitoring the bit error rate of the digital filter to assess an effectiveness of each such coefficient adaptation algorithm.” Applicant respectfully submits that Smee does not teach or suggest an adaptation engine with such a configuration.

For example, dependent Claim 12 describes “wherein the controller further selects among the plurality of coefficient adaptation algorithms based at least in part on a current load on a processor that implements the coefficient adaptation algorithms and other algorithms associated with the digital filter.” Applicant respectfully submits that Smee does not teach or suggest an adaptation engine with such a configuration.

For example, dependent Claim 26 describes “wherein the controller adaptively selects between the plurality of coefficient adaptation algorithms based at least in part by monitoring an operation of the digital filter to assess an effectiveness of each such coefficient adaptation algorithm.” Applicant respectfully submits that Smee does not teach or suggest a receiver system with such a configuration.

In addition, Applicant respectfully submits that the rejections to dependent Claims 2-16, 18-30, 33-38, and 40-48 are moot for at least the reasons described for of Claims 1, 17, 31, and 39, respectively, and Applicant accordingly requests allowance of Claims 2-16, 18-30, 33-38, and 40-48.

#### **New Claims**

Applicant has added new Claims 49-55 herein to further define the invention as claimed. Claims 49-53 are dependent claims and recite numerous additional distinctions over the cited references. Applicant respectfully submits that Claims 49-53 are patentable for at least the reasons discussed for their parent claims.

Claim 49 depends from and further defines Claim 1. Claim 49 is supported by, for example, paragraph [0054].

Claim 50 depends from and further defines Claim 17. Claim 50 is supported by, for example, paragraph [0056].

Claim 51 depends from and further defines Claim 17. Claim 51 is supported by, for example, paragraphs [0029] and [0049].

Claim 52 depends from and further defines Claim 51. Claim 52 is supported by, for example, paragraph [0045].

Claim 53 depends from and further defines Claim 31. Claim 53 is supported by, for example, paragraph [0056].

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Claim 54 is an independent claim. Claim 54 is supported by, for example, original Claim 1 and paragraph [0053]. Applicant respectfully submits that Claim 54 is not obvious over Smee. For example, Applicant respectfully submits that it would not be obvious to have "wherein a different coefficient adaptation algorithm is adaptively selected at least partially in response to status signals obtained from clock recovery unit."

Claim 55 is an independent claim. Claim 55 is supported by, for example, original Claim 1 and paragraph [0053]. Applicant respectfully submits that Claim 55 is not obvious over Smee. For example, Applicant respectfully submits that it would not be obvious to have "wherein a different coefficient adaptation algorithm is adaptively selected at least partially in response to a status of clock recovery."

#### SUMMARY

In view of the foregoing amendments and remarks, Applicant respectfully requests the Examiner to withdraw the rejections of Claims 1-48 under 35 U.S.C. § 103(a). Applicant further requests the Examiner to allow Claims 1-31 and 33-55 and to pass the present application to the issue process.

If there is any further impediment to the prompt allowance of the present application, Applicant requests the Examiner to call the undersigned attorney of record at 310-407-3466 or at the telephone number listed below to resolve any such impediment.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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